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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,105	07/30/2003	Masazumi Yasuoka	02008.119001	8316

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EXAMINER

BUI, HUNG S

ART UNIT PAPER NUMBER

2841

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,105

Applicant(s)

YASUOKA ET AL.

Examiner

Hung S Bui

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7,9,10 and 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,11,12,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/18/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: “terminal by electric” should be corrected as – terminal by an electric power supply --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, in lines 1-2, which “parts” applicant intend by the “width of a part” and “width of another part” is unclear. Applicant should clarify the specific parts intended and their relationship to each other.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5 and 12 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. [US 5,619,177].

Regarding claims 1, 5 and 19, Johnson et al. disclose a switch (100) for connecting a first terminal with a second terminal electrically (figure 5) comprising:

- a first terminal (118);
- a second terminal (120) confronting the first terminal;
- driving means (102) for driving the first terminal in the direction of the second terminal; and
- an electrostatic coupling section including first and second electrodes (106, 116) confronting each other for attracting the first terminal in the direction of the second terminal by electrostatic force (column 7, lines 55-59).

Regarding claims 2-3, Johnson et al. disclose a power supply (44) for driving the driving means (figure 5).

Regarding claim 12, Johnson et al. disclose the moving section having a plurality of components with different thermal coefficient (see abstract).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Loo et al. [US 6,046,659].

Regarding claims 4 and 6, Johnson et al. disclose the instant claimed invention except for the first terminal bridging second and third terminals.

Loo et al. disclose an electrostatically actuated microswitch having a first terminal bridge (28) bridging second and third terminals (18, 20, figures 3 & 4a).

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the terminal design of Loo et al. for the terminals of Johnson et al. for the purpose of providing input and output line connection.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Hopcroft [US 6,621,387].

Regarding claim 8, Johnson et al. disclose the instant claimed invention except for the terminals being located between the actuator support and electrodes.

Hopcroft discloses a microelectromechanical switch having a terminal structure (110) being located between an electrostatic actuator (112) and supporting means thereof (figure 4).

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the terminal placement design of Hopcroft for the terminals of Johnson et al., for the purpose of increasing contact force.

9. Claim 11, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Minners [US 6,236,300].

Regarding claim 11, Johnson et al. disclose the instant claimed invention except for the specific width of the terminals, or “parts,” relative to each other.

Minners discloses a bistable microswitch having a moving terminal with a contact section narrower than that of the fixed terminals.

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use terminal design of Minners for the terminals of Johnson et al., as modified, for the purpose of reducing arcing.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Buck et al. [US 5,268,696].

Regarding claim 20, Buck et al. disclose a switching array (figure 1) using a plurality of electrostatically operated microelectromechanical switches.

Buck et al. disclose the instant claimed invention except for the specific of microelectromechanical switches used in the array.

Johnson et al. disclose electrostatically operated microelectromechanical switches.

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the microelectromechanical switches of Johnson et al. in array of Buck et al. for the purpose of providing positive actuation of the switches.

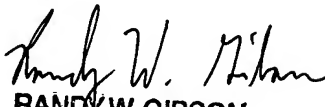
Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David S Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/5/04
HB


RANDY W. GIBSON
PRIMARY EXAMINER